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Heart Failure

IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS DO NOT REDUCE MORTALITY IN PATIENTS WITH THE HEARTMATE II LEFT VENTRICULAR ASSIST DEVICE

Moderated Poster Contributions
Poster Sessions, Expo North
Monday, March 11, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Mechanical Circulatory Support: Assessment of Risk and Outcomes
Abstract Category: 15. Heart Failure: Clinical
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Background: The clinical significance of ventricular tachycardia/ventricular fibrillation (VT/VF) in patients with the HeartMate II (HMII) left ventricular assist device (LVAD) has not been well elucidated. Accordingly, the role of implantable cardioverter-defibrillators (ICDs) in this patient population remains undefined.

Methods: The medical records of consecutive patients undergoing implantation of the HMII at the Mount Sinai Medical Center between June 8, 2008 and April 2, 2012 were reviewed. The clinical presentation of VT/VF and the ICD status of each patient post-LVAD were evaluated. The primary outcome was all-cause mortality. The impact of VT/VF and ICDs on survival was analyzed using Kaplan-Meier survival analysis and Cox proportional hazards modeling.

Results: One hundred and three patients underwent implantation of the HMII during the study period (mean age 56.5 years, 81.6% male, 41.8% ischemic cardiomyopathy, 90.3% as bridge to transplantation). The mean length of support was 260.4 days (range 1-952). Twenty (19.4%) patients died, 60 (58.3%) survived to transplantation, 3 (2.9%) had the HMII explanted, and 20 (19.4%) reached the end of the study or were lost to follow-up. Post-LVAD VT/VF occurred in 34 (33%) patients: 19.2% of VT/VF episodes resulted in symptoms such as dizziness, 17.2% in hypotension or decreased LVAD flows, 3% in syncope, and 2% in cardiac arrest. Post-LVAD VT/VF was not associated with increased mortality (hazard ratio 0.41 [0.13[[Unable to Display Character: –]]1.28], p=0.125). Sixty-nine (67%) patients had an active ICD and 34 (33%) had no ICD or an inactivated ICD post-LVAD. Patients with an ICD were more likely to have been diagnosed with congestive heart failure for more than 1 year (91.3% vs. 52.9%, p<0.0001) and less likely to be INTERMACS 1 at the time of HMII implant (18.8% vs. 44.1%, p=0.007). An appropriate shock was delivered in 28.8% of patients, but the presence of an active ICD was not associated with improved survival (hazard ratio 1.14 [0.43[[Unable to Display Character: –]]3.00], p=0.793).

Conclusion: VT/VF is common in patients with the HMII LVAD, and a substantial number of episodes are clinically significant. However, concomitant ICDs in HMII patients are not associated with improved survival.